

# ***Installation Manual for rainbow DSP 1.8***

<b>DSP 1.8</b>	<b>Digital Sound Processor</b>	<b>Part-No. RAC271014</b>
<b>DSP 1.8 + WiFi</b>	<b>Digital Sound Processor</b>	<b>Part-No. RAC271016</b>

**Please read this manual carefully before beginning installation!**



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## **User Safety Notice**

Please read all warnings in this manual. They inform you of risks of personal injury and damage to property!

**These products are intended for use only by those possessing the necessary specialized training. The relevant safety regulations regarding auto body parts, regulations on internal vehicle safety STVZO-TÜV, as well as regulations of the authorized vehicle manufacturers should be diligently followed.**

## **Hearing Impairment**

Sustained, excessive volumes in excess of 85 dB can, over time, impair hearing ability.

## **Volume and Driver Awareness**

Use of musical devices can interfere with your ability to hear important traffic noises, and thereby increase the risk of an accident while driving.

Rainbow® assumes no responsibility for hearing impairment, injury, or damage to property arising from the use or misuse of its products.

## **Work on Vehicle**

Do not operate your vehicle before all components of the loudspeaker system and the amplifier have been firmly and securely installed. Many parts, when unsecured, can become airborne and hazardous during sudden braking or in the event of an accident.

Do not bore or screw into vehicle lining or carpet before making certain that no important parts or cables lie beneath. Take care to avoid gasoline, brake, and oil lines and electrical cables when planning the assembly.

Before starting the assembly, disconnect the ground terminal (-) from the vehicle battery and any additional batteries that may have been installed, in order to avoid possible short circuits.

Should auto body panels need to be cut out or removed for the installation, contact your automobile workshop.

### **Damage to load-bearing auto body parts can void the vehicle operating permit!**

Be careful when removing inside paneling. Vehicle manufacturers use a diverse range of fastenings that can be damaged during disassembly.

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***This package contains:***

- 1 x DSP 1.8
- 1 x Power cable
- 1 x High-level cable
- 4 x Fastening screws
- Manual
- Packaging

***Optional (already contained, depending on version):***

- 1 x USB cable 3m or USB cable 1m with WiFi module option
- 1 x WiFi module
- MOST module incl. connection accessories
- External remote control incl. connection cable

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Dear Valued Customer,

We congratulate you on your purchase of this superior product and thank you for placing your trust in Rainbow. We have developed this installation manual with consideration of variations in the mechanical and acoustical characteristics of automobiles. Nevertheless, mistakes can still occur. We would greatly appreciate your bringing any problems you encounter to our attention.

Sincerely,  
Your Rainbow Team

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**Notice**

The installation and setup of the DSP should be carried out only by qualified personnel.

Read this operating manual carefully and follow the advice contained in it for the connection and setup of the DSP.

**Warning**

Before connecting external devices you should follow the relevant advice contained in the operating manual for that device.

Do not open the DSP and do not attempt to repair it. If required, contact your dealer only, who will inform the customer service department.

Any unauthorized modification will void the warranty.

**Installation****Warning**

The DSP is designed for use exclusively in the interior of vehicles that have a 12 Volt DC power supply. The ambient temperature can lie between 0°C and 60 °C.

Install the DSP only in the interior of the car or in the trunk. Do not install the DSP in the engine compartment.

The DSP must not be covered or exposed to pressure.

Ensure that no foreign bodies or fluids can get into the DSP.  
Ensure there is sufficient ventilation for the proper cooling of the housing.

**Attachment****Warning**

The heatsink can reach temperatures above 40°C. You should therefore avoid touching it with heat-sensitive surfaces or materials.

Make sure that in the attachment site there are no elements present that could be damaged by the screws or during the attachment process.

***Damage to the vehicle can compromise automobile safety and endanger passengers.***

Fasten the DSP on the fastening lugs provided. Ensure you have a secure, stable base that can withstand the weight.

Avoid fastening the device to plastic parts or cardboard cladding.

**Warning**

Only use electrical cable with a sufficient diameter. In doing so, pay attention to the technical details in the appendix. A larger diameter is always recommended.

The diameter of the grounding cable must be at least as large as that of the positive cable.

Where possible, ensure that the grounding cable is the first cable that you connect to the DSP.

Lay the cables one by one and in succession. Pay attention to performing a professional installation. When feeding through sheet metal parts, always use rubber grommets.

Use appropriate cable lugs and insulation caps.

Do not bend the cables at a right angle. Avoid contact with sharp sheet metal parts or surfaces that could damage the insulation.

**Warning**

Before every service, assembly, or disassembly, disconnect the terminals of the power supply from the battery. In all cases at least the negative pole should be detached.

Always install a fuse on the positive cable of the power supply coming from the battery and as near as possible to the battery terminal. Whenever possible, use the enclosed fuses.

When connecting an external capacitor, always follow the instructions contained in the manual that came with the capacitor.

***We are not liable for damage or injury caused by the improper use of external power supply systems.***

**Connections and Setup****Warning**

Make sure that the grounding connection is sound. Connect the cable to a metal part of the vehicle, from which the paint and/or other residues have been removed.

Use cables with appropriate lengths. Keep the cables as short as possible.

So that the suppressor system can function properly, the cinch input connections with metal housings must not come into contact with each other.

**Packaging**

The DSP is packaged in a protective cardboard box constructed for that purpose. Do not damage the packaging; keep it for later use in the event of damage to the DSP.

When you receive the DSP, check that:

- 1.) The packaging is intact, the contents correspond to the specifications, and the product is in no way damaged.
- 2.) In the event of missing or damaged parts, please contact your dealer immediately. In doing so, quote the model as well as the series number, which can be read off the lower part of the DSP.

Fasten the DSP at a suitable, well-ventilated position in the vehicle, preferably on the chassis panel, with the enclosed or similar sheet metal screws and using the insulating washers.

The heatsink of the DSP can attain a high surface temperature. Sufficient distance from temperature-sensitive parts is absolutely essential.

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**Caution:** Before the isolation work, at least detach the negative pole of the battery.  
This work requires expertise and should be performed with careful consideration of the relevant safety regulations.

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In order to prevent variations in voltage and ground loops, the same cable diameter **must** be used for the negative conductor (-) as for the positive conductor (+). Because of the large differences in potential, the auto body is not **suitable** as the negative pole for this application.

In order to prevent distortion, all audio devices must be attached to a **central ground**. This can be determined during installation in accordance with the type of vehicle. A direct connection at the negative terminal (-) of the battery is not always advantageous due to the possibility of technical failure. For this reason, choose the engine block or search for a minimal disturbance on the auto body and from this point supply **all devices** with the negative conductor (-) (use a distribution block).

The same criteria apply for the positive terminal (+). The battery lines must be placed on a distribution block to avoid distortion loops. All audio devices (including radio and CD player) as well as all memory wires are supplied with current from this point.

If, for reasons of interference suppression, the positive (+) current supply must be filtered, then only one filter choke with an appropriate total load capacity should be placed into the (+) main line (pay attention to the total current of all devices). Additional filters in the positive supplies of individual devices worsen the suppression effect.

With high playback volumes, especially in the bass range, the amplifier can prematurely distort/clip due to the voltage drop on long cable lengths. This can be prevented by using a cable with a large diameter and minimizing the transition resistance at the connection points. Appropriate precautions can be taken by using low-loss battery clamps and distribution blocks during the first installation.

With insufficient cable diameter or large current requirements within the impulse range of the bass rendition or by active operation of more than one amplifier, the clipping can be improved through the use of an additional buffer capacitor. This supplies sufficient current in the millisecond range through its high capacity (~1F/20V) and allows for additional suppression and smoothing of the supply voltage and the current. The assembly is performed directly at the amplifier or at the distribution block.

### ***Determining the “Central Ground Point”***

- ❶ Completely install and check the system.
- ❷ Make the negative (-) connection of the audio system provisionally at the battery or at Point 1. Install the potential equalization conductor from the alternator housing to Point 1.
- ❸ Switch the system on, insert a blank cassette or CD (0dB track) and set the volume to minimum.
- ❹ Start the engine and activate all electrical loads, including light, heatable plates, and fans.
  - ↳ If, when the engine revolutions are increased, whistling distortions become audible, and if these increase or decrease in frequency with the revolutions, then the ground connection has to be corrected.
- ❺ Pull the antenna plug out of the car radio. If the distortion disappears there is a loss of potential at “antenna base to battery”.
  - ↳ Corrective action: Install a galvanic isolation filter (Item No. 140259).

If the distortion persists, proceed as follows:

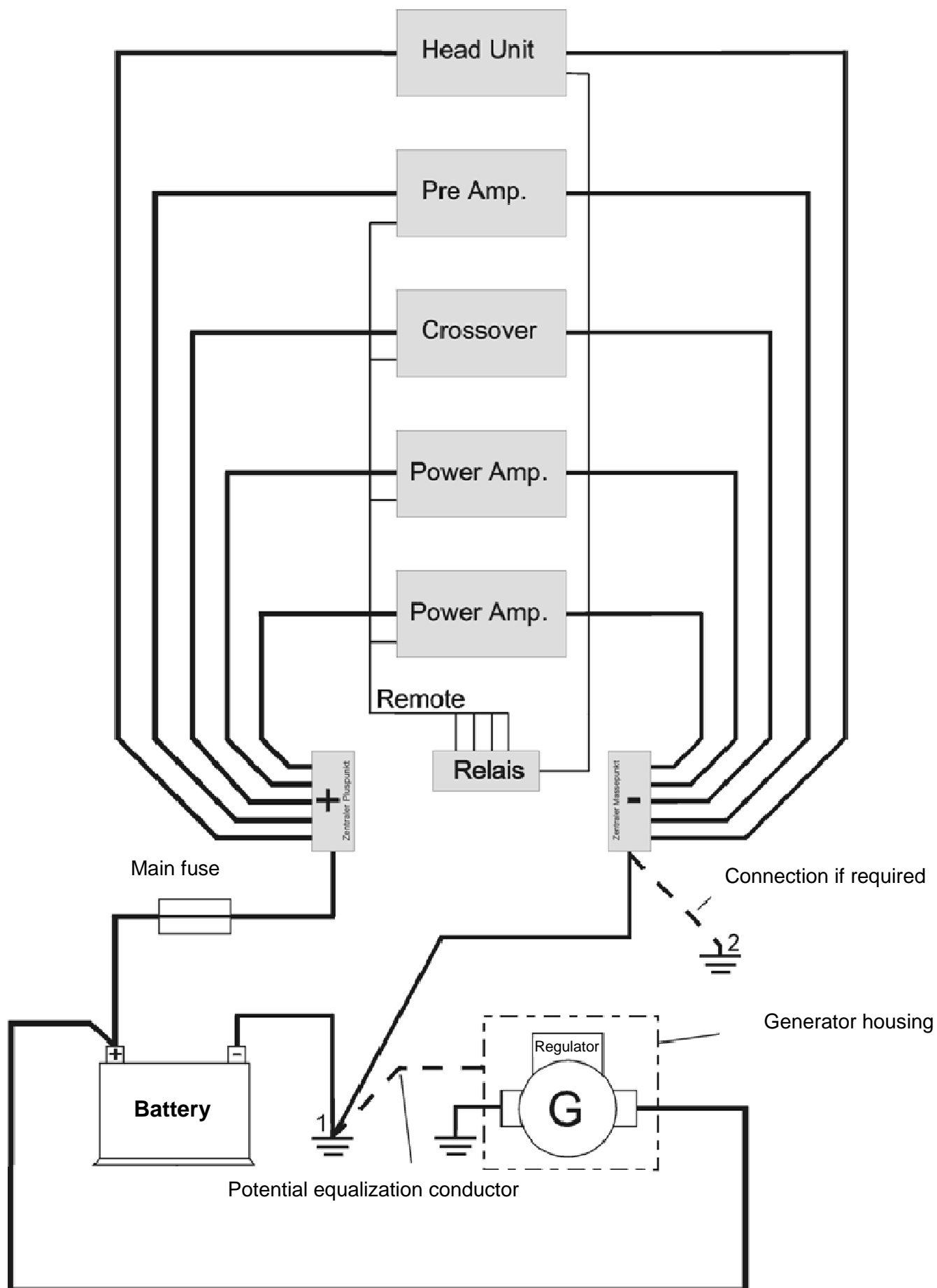
- ⑥ Disconnect the negative conductor (–) of the sound system from the battery and connect it to the engine block.  
↳ Check whether the distortion has been fixed.
- ⑦ Should the engine block fail to fix the distortion, the auto body must be swept with the negative conductor of the system while the engine is running, until a clear distortion minimum arises.  
↳ Expose this point (Point 2) and rid it of underbody protection.
- ⑧ Fasten a screw with a large diameter at this point. Clear the area on the auto body around the screw and protect with auto body grease.
- ⑨ Attach all ground cables to this screw or place a distribution block and distribute to all devices (**central ground point**).
- ⑩ Residual distortions can be fixed using an LC filter in the positive conductor.

A millivoltmeter (smallest voltage drop) or milliohm meter (smallest resistance) can also be used to search for the central ground. The engine block or Point 1 should always be the point of reference.

Digital electronics in vehicles cause an unmistakable distortion spectrum into the GHz range (interference from radio reception and car telephones). The switched-mode power supplies of the amplifier, digital tuner and CD player also contribute strongly to current contamination. All of the distortion spectra appear in the supply lines and are partially processed in the amplifier output stages. This results in a coarsened sound pattern with veiling in the high frequency range. The output stages are already intensely heated in the no-load operation or in the smallest capacity range by high-frequency distortion. The preliminary input stage of the amplifier cannot differentiate between music and distortion and therefore faithfully amplifies everything that is present at the “pre-in”/or current input. In order to dampen this effect, the optimum has been realized at the output stages during the manufacturing process. This is documented by the EU-type approval, whereby test specimens are examined for irradiating distortion and for self-produced distortion. Only after adherence to the EMD limit values is an E-No. assigned. For the reasons mentioned, the frequency range of the output stages should drop by at least 50 kHz in order to avoid unnecessary heating. With output stages in Class A or preamplifiers in Class A, higher bias current even in the low capacity range makes heating unavoidable and should not be confused with the described influence of distortion.

The removal of the distortion can only be accomplished through specific measures and already requires extensive expertise in the area of filtering technology during installation of the system. Important and useful suggestions in this regarding can be found in the relevant technical literature. Attention to the basic rules for laying cables, central grounding, and filtering of the current feed enables the provision of good basic suppression when quality cinch cables are used. Special suppression problems, which can arise in various ways depending upon vehicle type, must be repaired according to each individual case directly by the particular specialist.





**Technical Specifications****DSP 1.8**

DSP Chip from Analog Devices (56bit)  
Microprocessor from NXP  
Audio encoder, OPAs, and differential amplifier from Burr Brown (24bit)

6 RCA inputs  
6 high-level inputs (Molex, No Auto On/Off functionality! Use AIV #630115 or #640004)  
1 stereo AUX input (jack)  
1 stereo telephone/navigation input (Molex)  
USB audio streaming input (Windows PC)  
S/PDIF input (16/24Bit@44.1/48/96kHz)  
MOST BUS input (module optional)

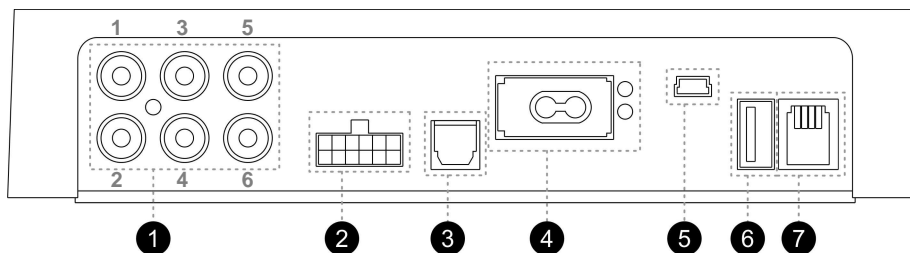
8 RCA outputs  
S/PDIF output (forwarding of S/PDIF input, 24bit@48kHz)

2 separate remote inputs  
DSP configuration via USB through Windows PC software  
DSP configuration via WIFI (module optional) with smart device app (iOS and Android)  
Audio streaming via WIFI (module optional) from iOS (Apple AirPlay 16Bit@44.1kHz) and  
Android devices (DLNA 16Bit@44.1kHz)  
Audio streaming via USB from Windows PCs (16Bit@44.1kHz)

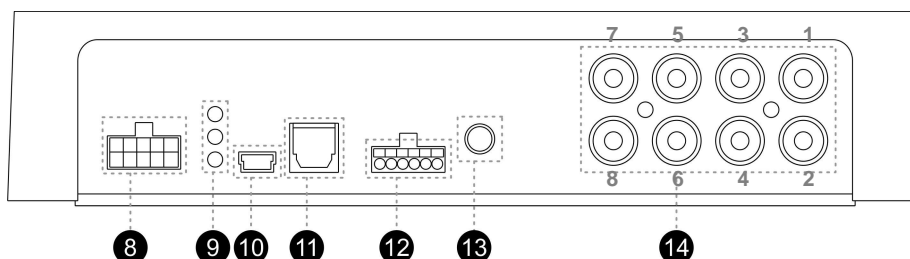
Real-time DSP configuration  
6 pre-sets for configurations  
DSP configuration can be stored on PC, smart devices and in an Internet CLOUD  
Usable in vehicles with start/stop system  
Remote output, loadable up to max. 1.2A

**Technical Data****DSP 1.8**

Signal-to-noise ratio (S/N) RCA input	>100 dBA
Signal-to-noise ratio (S/N) AUX input	>96 dBA
Signal-to-noise ratio (S/N) Toslink input	>106 dBA
Signal-to-noise ratio (S/N) USB/WiFi input	>106 dBA
Channel separation	>90 dBA
THD	0.003%
Frequency Response -0.1 dB	20 Hz – 20 kHz
Input impedance high level	33 Ohm
Input voltage high level	max. 20 Vrms
Input impedance RCA	>47 Ohm
Input voltage RCA	max. 4 Vrms (11Vpp)
Output impedance RCA	50 Ohm
Output voltage RCA	max. 4 Vrms (11Vpp)
Operating voltage	6.5 V - 15 V DC
Current draw @ 14.4 V	2 A
Bias current draw without signal	< 0.05 A
Remote output current	max 1.2 A
Dimensions: W x H x D	200 x 179 x 40 mm
Weight	0.9 kg

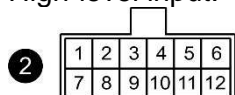


- 1) RCA inputs
- 2) 6 high-level inputs (no Auto On/Off functionality)
- 3) S/PDIF input (Toslink, optical)
- 4) MOST Bus input (optional)
- 5) Mini USB (MOST Bus firmware updates)
- 6) USB input (WiFi module, optional)
- 7) RJ-11 input (remote control, optional)



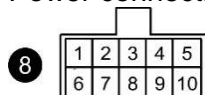
- 8) Power connection
- 9) 3 status LEDs: red = error/clipping, green = operating/data, yellow = USB connection
- 10) Mini USB (Windows PC)
- 11) S/PDIF output (Toslink, optical)
- 12) Telephone/navigation input
- 13) AUX input (3.5 mm jack stereo, also for navigation and telephone)
- 14) 8 RCA outputs

High-level input:



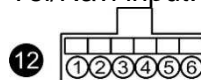
- |                   |                    |
|-------------------|--------------------|
| Pin1: Channel 1 + | Pin7: Channel 1 -  |
| Pin2: Channel 2 + | Pin8: Channel 2 -  |
| Pin3: Channel 3 + | Pin9: Channel 3 -  |
| Pin4: Channel 4 + | Pin10: Channel 4 - |
| Pin5: Channel 5 + | Pin11: Channel 5 - |
| Pin6: Channel 6 + | Pin12: Channel 6 - |

Power connection:



- |                     |
|---------------------|
| Pin1: -             |
| Pin2: REM in 1      |
| Pin3: -             |
| Pin4: -             |
| Pin5: Ground        |
| Pin6: REM in 2      |
| Pin7: -             |
| Pin8: -             |
| Pin9: REM out       |
| Pin10: +12V Battery |

Tel/Navi input:

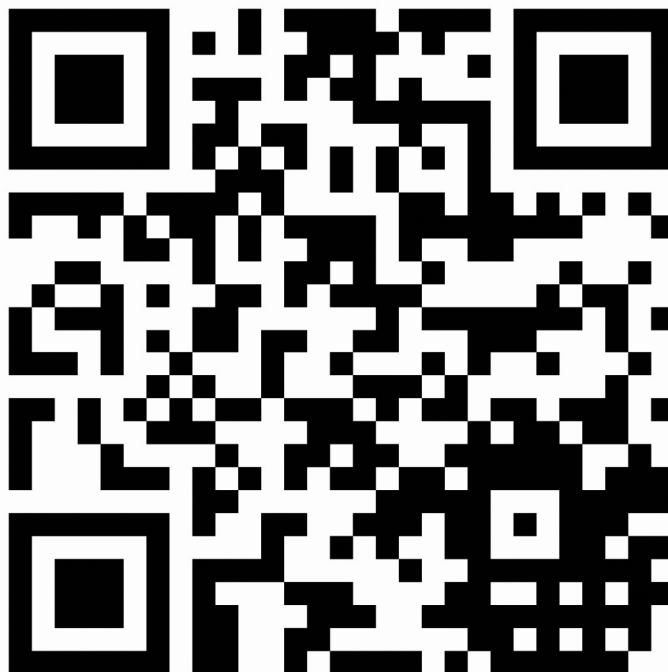


- |                         |
|-------------------------|
| Pin1: -                 |
| Pin2: -                 |
| Pin3: -                 |
| Pin4: Navigation AUX In |
| Pin5: Ground Navi/Phone |
| Pin6: Telephone AUX In  |

At this Internet address you will find the DSP software/app and documentation:

<http://www.rainbow-audio.de/qr/dsp>

Or more quickly via this QR code:



### iOS:

Download app via **iTunes AppStore** and install

- „DSP 1.8“ - App for iPad (Full version for professionals to setup DSP)
- „DSP 1.8 RC“ - App for iPhone (RC Version for end users with iPhone. No setup possible)
- „DSP 1.8 RC HD“ - App for iPad (RC Version for end users with iPad. No setup possible)

### Android:

Download app via **GooglePlay** and install

### Windows PC:

Download Windows app software and USB driver via <http://www.rainbow-audio.de/qr/dsp>.

Step 1: Install USB driver

- Windows XP SP3, see page 13
- Windows 7, see page 15
- Windows 8/8.1, see page 16

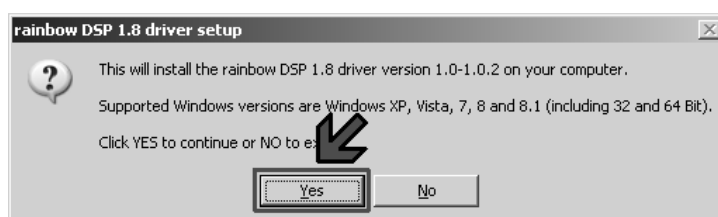
Step 2: Connect DSP with PC via USB cable and **wait** until the USB devices have been installed

Step 3: Install DSP software

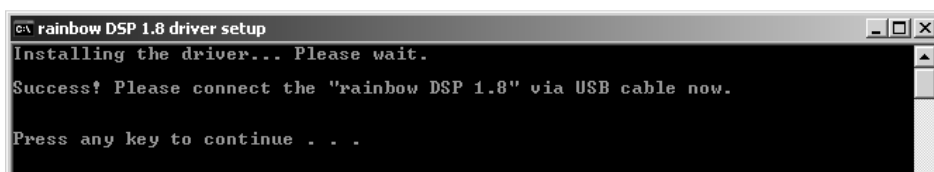
**Important:** Do not yet connect the USB cable at this point in time! The USB cable is first connected after the driver installation.

## Windows XP (SP3 and later)

- Double-click on the setup file “rainbow\_DSP\_1.8\_driver” and confirm installation by clicking on “Yes”.



- After the successful driver installation - indicated by the green-coloured text - connect the USB cable to the DSP and then connect it to your PC.



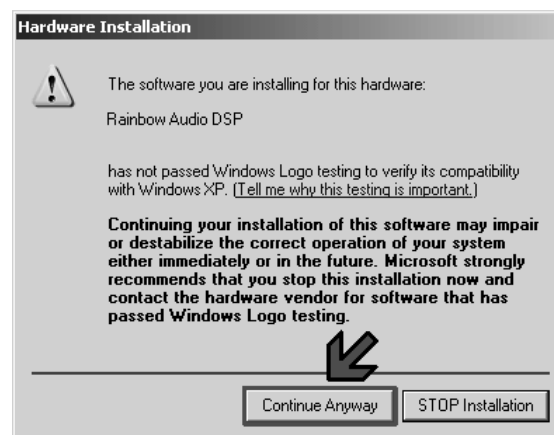
- Windows then opens the hardware wizard. Select the option “No, not this time” and click on “Next”.



- Select the option “Install the software automatically (Recommended)” and click on “Next”.



- On the following warning message click on “Continue Anyway”.



- Click on “Finish”.

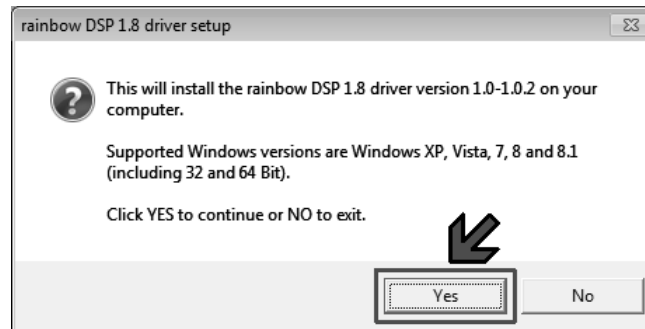


**Ready!** Windows will now complete the driver installation (overall it detects 3 devices) and the DSP will soon be ready to use.

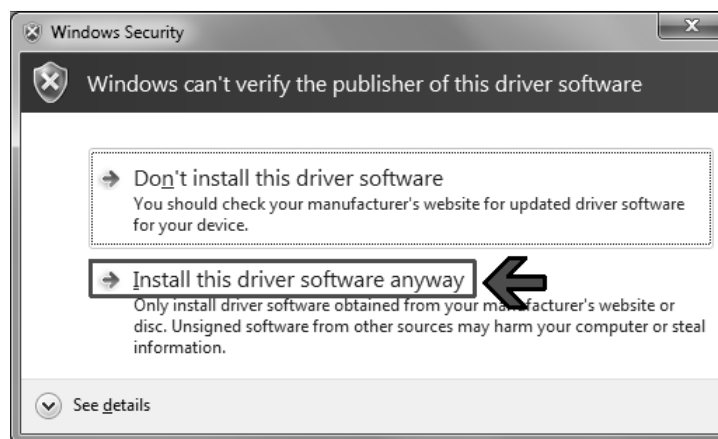
**Important:** Do not yet connect the USB cable at this point in time! The USB cable is first connected after the driver installation.

## Windows 7

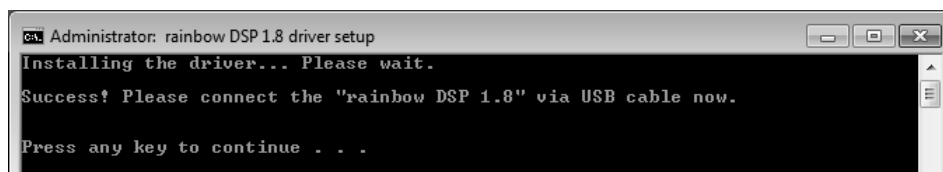
- Double-click on the setup file “**rainbow\_DSP\_1.8\_driver**” and confirm installation by clicking on “**Yes**”.



- On the following warning message click on “**Install this driver software anyway**”.



- After the successful driver installation - indicated by the green-coloured text - connect the USB cable to the DSP and then connect it to your PC.



**Ready!** Windows will now complete the driver installation (overall it detects 3 devices) and the DSP will soon be ready to use.



**Important:** Do not yet connect the USB cable at this point in time! The USB cable is first connected after the driver installation.

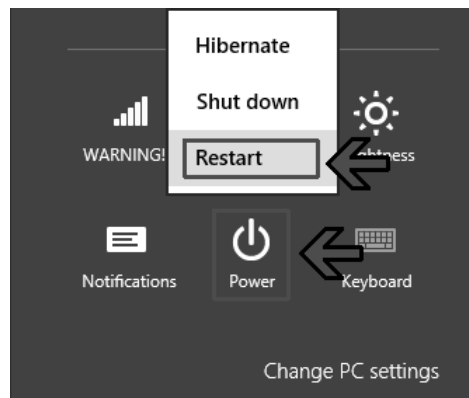
## Windows 8/8.1

Unfortunately, in Windows 8/8.1 the following additional steps are necessary to temporarily deactivate the driver signing:

- Press the shortcut “**Windows**  and “**I**” on your keyboard.

The settings menu of the Charms Bar appears on the right side of the screen.

- On the keyboard, hold the “**Shift** ”  key and at the same time click “**On/Off**” and then “**Restart**”.



Afterwards a blue-coloured screen appears: “Choose an option”.

- Click on the following, in order...
  - “Troubleshooting”
  - “Advanced Options”
  - “Startup Settings”
  - “Restart” (bottom right).

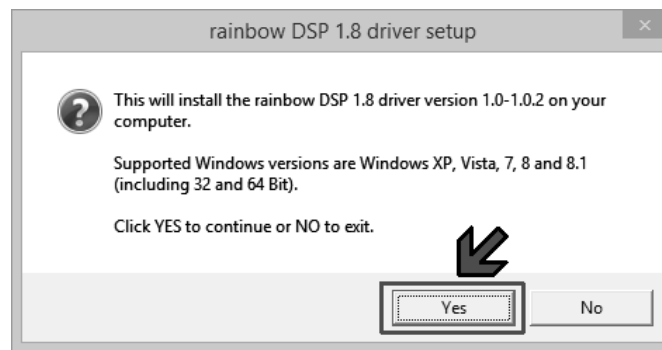
After the restart another blue-coloured screen appears: “Startup Settings”.

- Press the key “**F7**” (or “**7**”) on your keyboard to select the option “Disable driver signature enforcement”.

Windows starts with the selected option now and you can begin with the driver installation:



- Double-click on the setup file “rainbow\_DSP\_1.8\_driver” and confirm installation by clicking on “Yes”.



- On the following warning message click on “Install this driver software anyway”.



- After the successful driver installation - indicated by the green-coloured text - connect the USB cable to the DSP and then connect it to your PC.

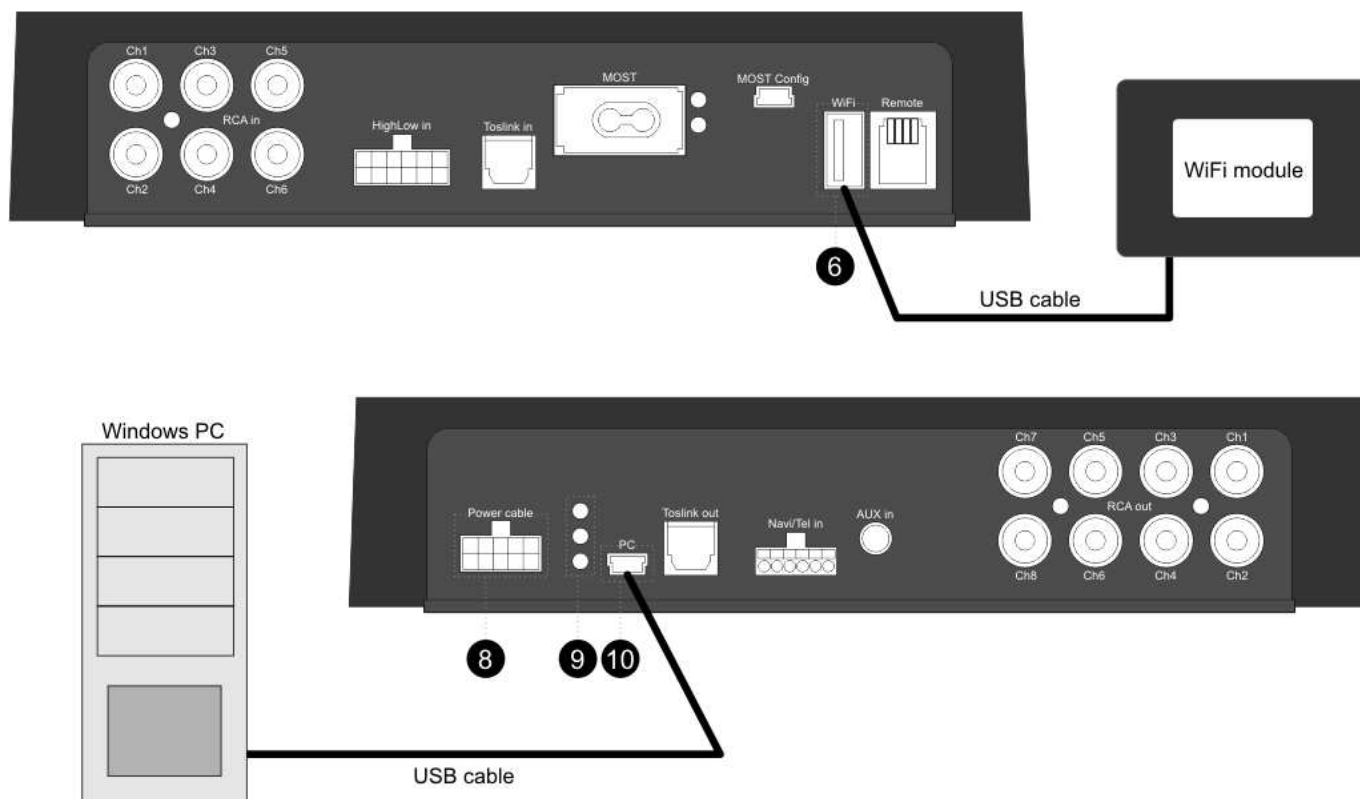


**Ready!** Windows will now complete the driver installation (overall it detects 3 devices) and the DSP will soon be ready to use.

Switch the DSP off

Option 1: Connect the WiFi module to USB socket (6) on the DSP 1.8

Option 2: Connect the PC to USB socket (10) on the DSP 1.8



**Ensure that either the WiFi module or a PC is connected.  
Parallel operation is not possible!**

Switch the DSP on

A yellow LED (9) on the DSP lights up when a data link is established. When using the WiFi module, the yellow LED (9) lights up for approx. 15 seconds after the DSP has been switched on.

## **Software/App – Connecting to the DSP**

**A data link via cable or WiFi module must be active (yellow LED on the DSP device is on).**

To connect the software/app with the DSP, click the “connect” symbol (above left) and then confirm the desired connection to be established.

When using the WiFi module, a connection to the WiFi module must be established via the WiFi settings on the smartphone/tablet. To that end, activate WiFi on the device, search for WiFi networks, select the WiFi module network (“RainbowDSP\_...”), and enter the corresponding WPA password (**default password is: rainbowdsp**). A WiFi connection to the WiFi module will then be established. A connection via the software/app to the DSP is now possible.

Operation of the software/app using

Apple iPad:



Windows PC:



Basic functions, for simple day-to-day operation.



Figure 1: Driver Page - Input Submenu



Figure 2: Driver Page - Input Submenu - Leveling

### Master Volume

Total volume of all outputs

### Mute

Muting of all outputs

### Sub Volume

Control the volume of the output defined as **Sub**

### Inputs (source selection)

**Hi-level:** High-level input

Submenu:

Stereo/Front+Rear/F+R+S+C/3 Ways+S/Summarize: see "In-Out Matrix" on the next page

Level Adjust: Set the input level (clipping)

Enable/Disable: Activate or deactivate source input.

**RCA:** Cinch input

Submenu:

Stereo/Front+Rear/F+R+S+C/3 Ways+S: see "In-Out Matrix" on the next page

Level Adjust: Set the input level (clipping)

Enable/Disable: Activate or deactivate source input

**AUX:** Jack or Navi/Phone input

Submenu:

Stereo (jack input only): see "In-Out Matrix"

Navi: Navi input (mono) with automatic switching

Phone: Phone input (mono) with automatic switching

Enable/Disable: Activate or deactivate source input

**Stream/USB:** Digital input via WiFi module or via USB connection

Submenu:

Stereo: see “In-Out Matrix”

Enable/Disable: Activate or deactivate source input

**Toslink:** Digital optical input

Submenu:

Stereo: see “In-Out Matrix”

Enable/Disable: Activate or deactivate source input

**MOST:** Digital optical input for OEM integration (optional)

Submenu:

Stereo/Front+Rear: see “In-Out Matrix”

Enable/Disable: Activate or deactivate source input

**Please deactivate unused inputs!**

This prevents the selection of unused inputs and thereby also prevents possible distortions.

**Presets**

Selection of a pre-set. Programming, see “Config Page”

**Software/app - In-Out Matrix**

**DSP 1.8**

The inputs and outputs can be connected with each other in different ways according to predefined patterns. Example, “Stereo”: Signal at Ch1 input is output at Ch1, Ch3, Ch5 and Ch7 output.

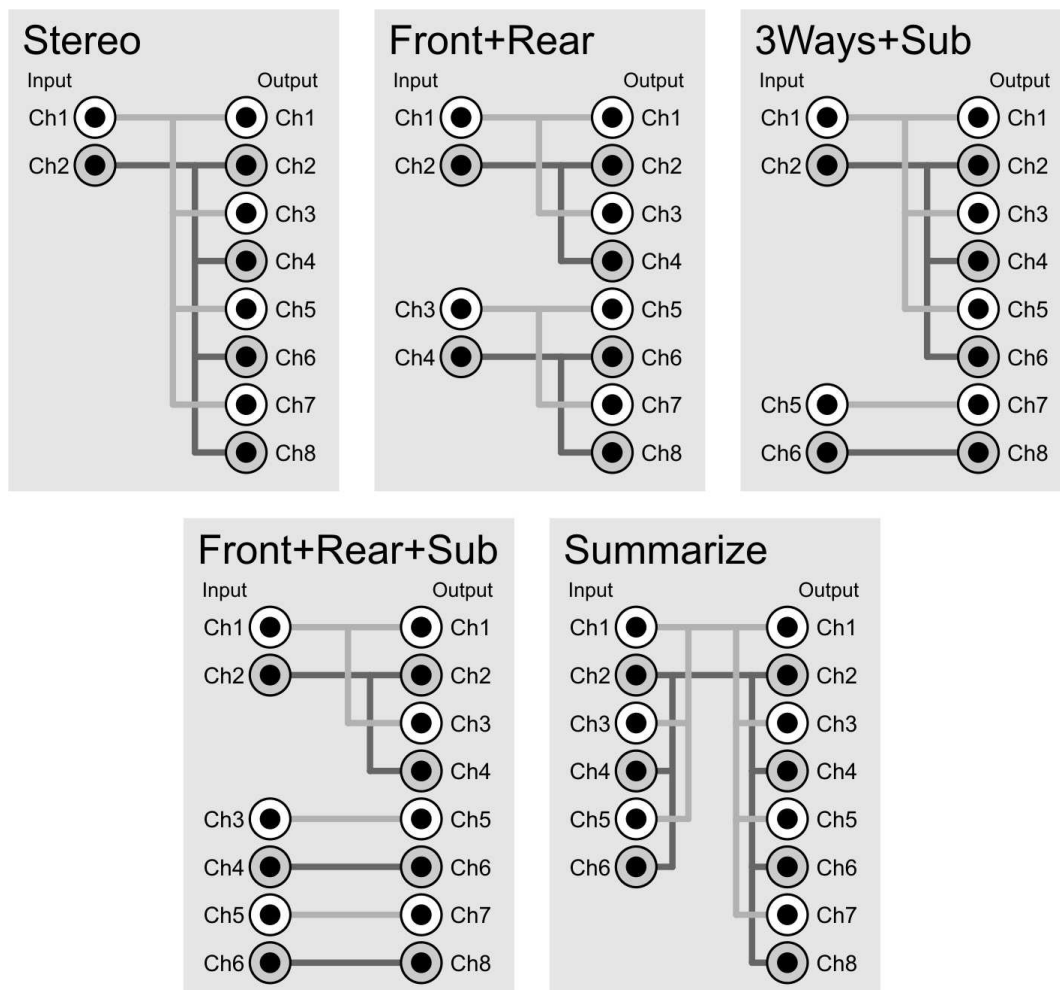


Figure 3: Input/Output Matrix

Setting and changing of all functions



Figure 4: Config Page – Channel Submenu



Figure 5: Config Page – Equalizer Submenu

### Volume

Set master/sub volume. **Sub** can only be changed when at least one channel (Ch7 and/or Ch8) has been defined as the subwoofer (SUB).

### High-/low-pass Filter

Setting the center frequency (Fc), slope (dB/Oct) and characteristic (But./Bes./Cheb.). Quick activating and deactivating of the filter via the switch (I/O).

### Phase 180°

Turning the phase of the current channel around 180 degrees via the switch (I/O)

### Output level

Setting the volume of the current channel

### Delay

Setting the time delay of the current channel

### Channel

Choosing the channel that you would like to configure  
Submenu

Connect with: Chaining channels in order to configure them simultaneously

Copy: Copy the configuration to or from another channel

Output Type: NORMAL or SUB. SUB also activates the subwoofer volume control.

Default configuration: All settings of this channel will be reset

Change alias: Define a name for this channel

Muting: Mute this channel

### Preset

Load: Loading and saving of the current configuration, on the device or in the cloud

Save: Save the current configuration onto another preset

Copy onto: copy current preset into another preset

Default configuration: Resetting all settings

Save in DSP: Final save of programming on the DSP

Delete from DSP: current preset will be reset to factory settings

**ATTENTION! ALWAYS USE “Save in DSP” WHEN THE PROGRAMMING HAS BEEN COMPLETED! OTHERWISE THERE IS A RISK OF DATA LOSS!**

## EQ

Volume (Gain), center frequency (Fc) and Q factor (Q) can be set here.

## Software/App – Overview Page

DSP 1.8

Quick and simple overview of all settings



Figure 6:  
Overview Page –  
Filter and Level



Figure 7:  
Overview Page –  
Equalizer



Figure 8: Overview Page – Time Delay and Phase

## Filter

Displays the filters and volumes set for each channel

## EQ

Displays the equalizer curves set for each channel.

## Delay

Displays the time delays and phases set for each channel

## Ch1-Ch8

By tapping, the channels along with their frequency responses can be individually displayed or hidden.

## Preset

Selection of a preset

**An active WiFi connection to the DSP must already have been established.**

Via the symbol “?” symbol one reaches the “WiFi Settings”.

The SSID (module name), WIFI password, and WIFI channel can now be changed.

The SSID always begins with “RainbowDSP\_”. The module can then be named as you please.

The password must be at least 8 characters long. A combination of letters and numbers is recommended. **Default WPA password is: rainbowdsp**

The WIFI channel should be chosen in such a way that no other active WIFI network is active on this channel. There are 11 channels that may be selected. A minimum gap of 2 channels to the next WIFI network is necessary; a gap of 5 channels is recommended for distortion-free operation. The channels 1, 6, and 11 are therefore recommended.

After making changes, store the settings.

The current connection to the WiFi module will be automatically disconnected.


The module then restarts (delay approx. 1 minute).

After this, also restart the DSP manually, so that the WiFi module and DSP can re-establish a stable data connection. Yellow LED on DSP device must light up again.

A connection to the WiFi module from a tablet/smartphone via WIFI can then be re-established.

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**WiFi – Music Streaming under iOS****DSP 1.8**

- 1) Establish WiFi connection to DSP 1.8
- 2) Choose Apple „Airplay “, function and select „rainbow DSP“ as target device
- 3) Open rainbow DSP 1.8 App and connect App with DSP
- 4) Select „Stream“ as input
- 5) Open iOS music player and select desired title or disc and press play

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**WiFi – Music Streaming under Android****DSP 1.8**

Attention: May vary depending on device and Android version

- 1) Establish WiFi connection to DSP 1.8
- 2) Open rainbow DSP 1.8 App and connect App with DSP
- 3) Select “Stream” as input
- 4) Open any music player which supports „Airplay “, and select the rainbowDSP 1.8 as target device
- 5) Select desired title or disc and press play



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The warranty is exclusively limited to free substitution of defective parts, the defectiveness of which is the result of faulty construction or material defects, as well as to the warranty repair.

A warranty claim does not exist if defects resulted from inappropriate assembly, transport damage, mechanical damage, or foreign interference.

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